

## REMARKS

### **I. Introduction**

In response to the Office Action dated July 30, 2007, Applicants have amended claim 1 to further clarify the subject matter of the present invention. Support for the amendment to claim 1 may be found on page 3, lines 5-13 and page 4, lines 5-12 of the specification. In addition, new claim 3 was added. Support for new claim 3 may be found, for example, on page 9, lines 10-14 of the specification. No new matter has been added.

A Request for Continued Examination is being filed concurrently with this amendment.

Applicants respectfully submit that all pending claims are patentable over the cited prior art for the reasons set forth below.

### **II. The Rejection Of Claims 1 And 2 Under 35 U.S.C. § 103**

Claims 1 and 2 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kweon et al. (USP No. 6,783,890) in view of Okamura et al. (JP 06-150929). Applicants respectfully traverse this rejection for at least the following reasons.

With regard to the present invention, claim 1 recites a lithium ion secondary battery comprising: a positive electrode including a positive electrode active material comprising a lithium-containing composite oxide, a conductive material and a binder; a negative electrode; and a non-aqueous electrolyte, wherein said lithium-containing composite oxide has a structure of lithium cobaltate where Co atoms are partially substituted by Na and/or K atoms.

One feature of the present disclosure is the partial substitution of the Co site of the lithium-containing composite with Na and/or K. In addition, the added amount of Na and/or K in the Co site is very small and the range is narrow (0.0002 to 0.008) as compared to the added

amount of Na and/or K in Okamura (0.3 or less). As a result, a battery of the present invention has superior positive electrode utilization rate over that of Okamura.

In contrast to the present invention, Okamura fails to disclose or suggest the effect of a high positive electrode utilization rate which is obtained by the narrow range of Na and/or K in the electrode. In addition, dissolving of Mg into the electrolyte during high temperature storage can be prevented, thereby improving high temperature storage characteristics.

As is well known, an applicant can rebut a presumption of obviousness based on a claimed invention that falls within a prior art range by showing...that there are new and unexpected results relative to the prior art." *Iron Grip Barbell Co., Inc. v. USA Sports, Inc.*, 392 F.3d 1317, 1322, 73 USPQ2d 1225, 1228 (Fed. Cir. 2004). As the claimed range shows unexpected results that are superior to the range claimed by the prior art, as indicated in Tables 3 and 4 which show how Examples 1-14 have superior positive electrode utilization values when compared with Comparative Examples 7 and 9, Applicants submit that claim 1 is allowable over the cited prior art.

**III. All Dependent Claims Are Allowable Because The Independent Claim From Which They Depend Is Allowable**

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

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Furthermore, as new claim 3 is dependent upon claim 1, which is allowable for the reasons cited above, Applicants submit that new claim 3 is allowable over the cited prior art.

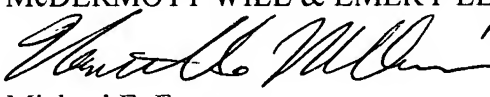
**IV. Conclusion**

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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